



PPG INDUSTRIES, INC./BOX 191/NEW MARTINSVILLE, WEST VIRGINIA 26155/AREA 304/455-2200

Natrium Plant
Industrial Chemical Division - U.S.

November 22, 1982

Regional Administrator
U.S. Environmental Protection Agency
Region III
Sixth and Walnut Streets
Philadelphia, PA 19106

Dear Sir:

As required by the Resource Conservation and Recovery Act of 1976, PPG Industries, Inc., is reporting the concentrations of the parameters in 40 CFR 265.92(b)(1) for its fourth quarterly sampling of the groundwater monitoring wells at the mercury impoundment facility. This active facility is located at the Natrium, West Virginia, plant of PPG Industries, Inc., EPA I.D. No. WVD 004336343.

The fourth quarterly sampling showed no parameters exceeding the Interim Primary Drinking Water Standards which would indicate impoundment leakage. The reference well, GM-0, and downgradient well, GM-2, had no parameter exceeding the standards. The number of values exceeding the Interim Primary Drinking Water Standards continues to decrease with each sampling with only arsenic in well GM-1 repeating from the last sampling. It is felt that this parameter is affected by fine sediment picked up in sampling this low yield well.

The wells and parameters in excess of standards are as follows:

<u>Well No.</u>	<u>Parameter</u>	<u>Standard</u>	<u>Concentration Found</u>
GM-1	Arsenic	0.05 mg/l	0.095 mg/l
	Barium	1.0 mg/l	1.40 mg/l
	Coliform Bacteria	1/100 ml	60/100 ml
GM-6	Lead	0.05 mg/l	0.240 mg/l

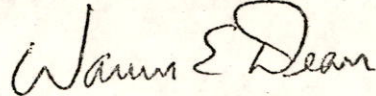
Regional Administrator
U.S. EPA, Region III

November 22, 1982
Page 2

Results of the fourth quarterly sampling are attached. If further information is needed, please contact me at this location.

Sincerely yours,

PPG INDUSTRIES, INC.
Natrium Plant

A handwritten signature in dark ink, appearing to read "Warren E. Dean". The signature is written in a cursive style with a large, stylized "W" and "D".

Warren E. Dean
Technical Manager

WED-CED:egm

Enclosure

MERCURY IMPOUNDMENT
FOURTH QUARTERLY MONITORING RESULTS
 November 15, 1982
 (Concentration in mg/l except as noted)

<u>Parameters</u>	<u>EPA Maximum* Level Standard</u>	<u>M O N I T O R I N G W E L L S</u>			
		<u>GM-0</u>	<u>GM-1</u>	<u>GM-2</u>	<u>GM-6</u>
Arsenic	0.05	<0.005	0.095	0.019	0.011
Barium	1.0	0.074	1.40	0.360	0.650
Cadmium	0.01	<0.010	0.010	0.010	<0.010
Chromium	0.05	<0.010	0.010	<0.010	<0.010
Fluoride	1.4-2.4	2.0	1.0	1.0	1.0
Lead	0.05	0.016	0.045	<0.005	0.240
Mercury	0.002	<0.0005	<0.0005	<0.0005	0.0009
Nitrate (as N)	10	4.1	0.14	0.13	0.29
Selenium	0.01	<0.005	<0.005	<0.005	<0.005
Silver	0.05	0.010	0.010	<0.010	0.010
Endrin	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	0.004	<0.004	<0.004	<0.004	<0.004
Methoxychlor	0.1	<0.100	<0.100	<0.100	<0.100
Toxaphene	0.005	<0.005	<0.005	<0.005	<0.005
2,4-D	0.1	<0.100	<0.100	<0.100	<0.100
2,4,5-TP Silvex	0.01	<0.010	<0.010	<0.010	<0.010
Radium 226, 228 pCi/l	5 pCi/l	<1	<1	<1	} insuff. sample
Gross Alpha pCi/l	15 pCi/l	<1	<1	5	
Gross Beta pCi/l	4 milli Rem/yr.	<5	<5	<5	
Coliform Bacteria	1/100 ml	<1	60	<1	

*Section 265.92(b)(1), Appendix III - EPA Interim Primary Drinking Water Standards, FR Vol. 45, No. 98, 5/19/80 33257

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EPA, REGION III
OFFICE OF REGIONAL ADMINISTRATION

PPG INDUSTRIES, INC./BOX 191/NEW MARTINSVILLE, WEST VIRGINIA 26155/AREA 304/455-2200

Natrium Plant
Industrial Chemical Division - U.S.

August 6, 1982

Regional Administrator
U.S. Environmental Protection Agency
Region III
Sixth and Walnut Streets
Philadelphia, PA 19106

Dear Sir:

As required by the Resource Conservation and Recovery Act of 1976, PPG Industries, Inc., is reporting the concentrations of the parameters in 40 CFR 265.92(b)(1) for its third quarterly sampling of the groundwater monitoring wells at the mercury impoundment facility. This active facility is located at the Natrium, West Virginia, plant of PPG Industries, Inc., EPA I.D. No. WVD 004336343.

The third quarterly sampling showed no parameter exceeding the Interim Primary Drinking Water Standards which would be attributed to the impoundment. Coliform bacteria counts continue to decrease. The lead parameter value in Well GM-1 appears to be suspect basis previous sampling and the other wells. Low levels of arsenic and cadmium continue to be found and may be related to turbidity stirred up by sampling.

The wells and parameters in excess of standards are as follows:

Well No.	Parameter	Standard	Concentration Found
GM-1	Arsenic	0.05 mg/l	.054 mg/l
	Cadmium	0.01 mg/l	.063 mg/l
	Lead	0.05 mg/l	.736 mg/l
GM-2	Cadmium	0.01 mg/l	0.03 mg/l
	Coliform Bacteria	1/100 ml	<5/100 ml
GM-6	Coliform Bacteria	1/100 ml	<5/100 ml

Received Aug 12, 1982
Reviewed DDD

Regional Administrator
U.S. EPA, Region III

August 6, 1982
Page 2

The reference well, GM-0, had no parameter exceeding the standards. Results from the third quarterly sampling are attached.

If further information is needed, please contact me at this location.

Sincerely yours,

PPG INDUSTRIES, INC.
Natrium Plant

A handwritten signature in dark ink, appearing to read "Warren E. Dean". The signature is fluid and cursive, with the first name "Warren" being more prominent.

Warren E. Dean
Technical Manager

WED-CED:egm

Enclosure

MERCURY IMPOUNDMENT
THIRD QUARTERLY MONITORING RESULTS
August 3, 1982
(Concentration in mg/l except as noted)

<u>Parameters</u>	<u>EPA Maximum* Level Standard</u>	<u>M O N I T O R I N G W E L L S</u>			
		<u>GM-0</u>	<u>GM-1</u>	<u>GM-2</u>	<u>GM-6</u>
Arsenic	0.05	<0.005	0.054	0.012	<0.005
Barium	1.0	0.070	0.832	0.355	0.247
Cadmium	0.01	<0.004	0.063	0.030	<0.004
Chromium	0.05	0.006	0.017	0.010	0.010
Fluoride	1.4-2.4	1.3	2.0	1.0	2.0
Lead	0.05	0.014	0.736	0.003	0.030
Mercury	0.002	0.0001	0.0002	0.0001	0.0003
Nitrate (as N)	10	4.6	0.54	0.50	0.77
Selenium	0.01	<0.005	<0.005	<0.005	<0.005
Silver	0.05	<0.004	0.005	0.005	0.005
Endrin	0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	0.004	<0.004	<0.004	<0.004	<0.004
Methoxychlor	0.1	<0.10	<0.10	<0.10	<0.10
Toxaphene	0.005	<0.005	<0.005	<0.005	<0.005
2,4-D	0.1	<0.10	<0.10	<0.10	<0.10
2,4,5-TP Silvex	0.01	<0.01	<0.01	<0.01	<0.01
Radium 226, 228 pCi/l	5 pCi/l	<1.6	<1.6	<1.6	<1.6
Gross Alpha pCi/l	15 pCi/l	<2	<2	<2	<2
Gross Beta pCi/l	4 milli Rem/yr	7	<3	3	<3
Coliform Bacteria	1/100 ml	<1	<1	<5	<5

*Section 265.92(b)(1), Appendix III - EPA Interim Primary Drinking Water Standards, FR Vol. 45, No. 98, 5/19/80 33257

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PPG INDUSTRIES, INC./BOX 191/NEW MARTINSVILLE, WEST VIRGINIA 26155/AREA 304/455-2200

Natrium Plant
Chemical Division-U.S.

May 12, 1982

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Regional Administrator
U. S. Environmental Protection Agency
Region III
Sixth and Walnut Streets
Philadelphia, PA 19106

Dear Sir:

As required by the Resource Conservation and Recovery Act of 1976, PPG Industries, Inc., is reporting the concentrations of the parameters in 40 CFR 265.92 (b)(1) for its second quarterly sampling of the groundwater monitoring wells at the mercury impoundment facility. This active facility is located at the Natrium, West Virginia, plant of PPG Industries, Inc., EPA I.D. No. WVD 004336343.

PPG Industries, Inc., is aware of the delayed compliance dates for the first two quarterly samplings (FR 47, No. 36, p. 7841, February 23, 1982), but the second quarterly sampling showed a few parameters above the maximum levels listed for Interim Primary Drinking Water Standards. The first quarterly report filed January 18, 1982, included results from the three downgradient wells (No. GM-1, GM-2, and GM-6) and a reference well (No. GM-0). The results from these same wells for the second quarter are attached.

The wells and parameters in excess of standards are as follows:

Well No.	Parameter	Standard	Concentration Found 2nd Qtr. (1st Qtr.)
GM-1	Barium	1.0 mg/l	1.1 mg/l (1.1)
	Cadmium	0.01 mg/l	0.026 mg/l (0.083)
	Coliform Bacteria	1/100 ml	<20/100 ml (1500)
GM-2	Cadmium	0.01 mg/l	0.036 mg/l (0.043)
	Coliform Bacteria	1/100 ml	<5/100 ml (500)
GM-6	Coliform Bacteria	1/100 ml	<20/100 ml (54000)

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Regional Administrator
U. S. EPA, Region III

May 12, 1982
Page 2

Comparing the first two quarterly sampling results shows that:

- 1) No parameter was exceeded which is attributable to the impoundment.
- 2) Initial drilling probably contributed to high coliform bacteria levels which are decreasing significantly.
- 3) Cadmium levels appear to be decreasing, which may indicate some type of drilling-related contamination.
- 4) The reference well, GM-0, again had no parameter exceeding the standards.

If further information is needed, please contact me at this location.

Sincerely yours,

PPG INDUSTRIES, INC.
Natrium Plant



Warren E. Dean
Technical Manager

WED-CED:egm

Enclosure

MERCURY IMPOUNDMENT
SECOND QUARTERLY MONITORING RESULTS
May 10, 1982
(Concentration in mg/l except as noted)

<u>Parameters</u>	<u>EPA Maximum* Level Standard</u>	<u>M O N I T O R I N G W E L L S</u>			
		<u>GM-0</u>	<u>GM-1</u>	<u>GM-2</u>	<u>GM-6</u>
Arsenic	0.05	<.005	0.043	0.009	<.005
Barium	1.0	.064	1.1	0.44	0.16
Cadmium	0.01	<.003	0.026	0.036	0.004
Chromium	0.05	.011	0.017	0.020	0.014
Fluoride	1.4-2.4	1.0	1.0	1.0	2.0
Lead	0.05	<.005	0.016	0.012	<.005
Mercury	0.002	.0002	0.0002	<0.0002	0.0002
Nitrate (as N)	10	6.8	1.5	0.6	1.0
Selenium	0.01	<.005	<.005	<.005	<.005
Silver	0.05	<.004	<.004	<.004	<.004
Endrin	0.0002	<.0002	<.0002	<.0002	<.0002
Lindane	0.004	<.004	<.004	<.004	<.004
Methoxychlor	0.1	<.005	<.005	<.005	<.005
Toxaphene	0.005	<.005	<.005	<.005	<.005
2,4-D	0.1	<.010	<.010	<.010	<.010
2,4,5-TP Silvex	0.01	<.010	<.010	<.010	<.010
Radium 226, 228 pCi/l	5 pCi/l	<1.6	2.4 ± 1.2	1.2 ± 1	<1.6
Gross Alpha pCi/l	15 pCi/l	<2	<2	<2	<2
Gross Beta pCi/l	4 milli Rem/yr	<3	<3	<3	<3
Coliform Bacteria	1/100 ml	<1	<20	<5	<20

*Section 265.92 (b)(1), Appendix III - EPA Interim Primary Drinking Water Standards, FR Vol. 45, No. 98, 5/19/80 33257

*Referred to
Superfund - Bill Hoyer.
Aware of Comeland.
D. Down.
May 1982*

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION III

Western Regional Laboratory & Environmental Center
303 Methodist Bldg., 11th & Chapline Streets
Wheeling, West Virginia 26003

DATE: 4/9/82

SUBJECT: Trip Report: Investigation of Citizen's Complaint of Well Water Polluting
by the Pittsburgh Plate and Glass Corporation of Proctor, WV.

FROM: Jerry Saseen, OSC
EEB, WRLEC (3ES11)

Jerry Saseen

TO: Thomas C. Voltaggio, Chief
AWCB, Region III (3AW20)

THRU: Gary V. Bryant, Acting Chief *GNB*
Engineering Section, WRLEC (3ES11)

1. Date of trip: March 19, 1982
2. Persons making trip: Jerry Saseen, EPA
Ms. Cheetham, WV DNR
Mr. Ken Hilsbos, WV DNR
3. Persons contacted: Mr. Russel Zesiger, Citizen
Rt. 2, Proctor, WV.
4. Purpose of trip: To investigate the subject matter.
5. Remarks: Analytical results of the well water supply of Mr. Zesiger revealed no toxicities of materials tested for. Additional sampling of other well water supplies in the area may be necessary.
6. Details: On March 19, 1982 an investigation was performed by the writer along with representatives from the WVDNR to sample and evaluate the effects of dumping and landfilling by the PPG Industry of Proctor, WV., on the well water supply of Mr. Russell Zesiger of Route 2, Proctor, WV.

Mr. Zesiger's complaint to EPA of a chemical taste and odor in his well water justified sampling the supply with analysis being performed at the WRLEC.

Samples were collected of the raw water pumped from the well into the basement of Mr. Zesiger's home before entering the water softener system. These samples were brought back to the WRLEC by the writer for analysis. (Attached to this report is the WRLEC analysis data of selected chemical parameters for which we tested).

Due to the nature of this complaint, with the area residents dependency on well water supplies, EPA requested a RCRA inspection be conducted by the WVDNR of the PPG Industry whose operation may have a direct affect on the ground water in this area.

The RCRA inspection was performed by Mr. Ken Hilsbos of the WVDNR on 3/22/82, and a copy of his RCRA report will be forwarded to Region upon receipt.

An earlier RCRA inspection was performed by the WVDNR on May 20, 1981, at the PPG site. Mr. Joe Hughart, WVDNR who performed the inspection stated in his report, that the inorganic waste pond and the Marshall Plant pond (abandoned) present a high potential for groundwater pollution to this area.

Further investigation and sampling of other private well water supplies may be necessary due to this complaint.

cc: G. Bryant (3ES11)
B. Smith (3ES30)
RWS
Cont. File

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION III

Western Regional Laboratory & Environmental Center
303 Methodist Bldg., 11th & Chapline Streets
Wheeling, West Virginia 26003

DATE: 4/1/82

SUBJECT: Analytical Results

FROM: H. Ronald Preston (3ES12)
Acting Chief, Laboratory Section
WRLEC

TO: Gary V. Bryant (3ES11)
Acting Chief, Engineering Section
WRLEC

The analytical results of the well water (Russel Zesiger Residence) received March 19, 1982 from the EEB personnel is attached.

Attachment

✓ cc: Jerry Saseen, EEB-WRLEC

U. S. ENVIRONMENTAL PROTECTION AGENCY
WESTERN REGIONAL LABORATORY AND ENVIRONMENTAL CENTER
WHEELING, WEST VIRGINIA

Source: Well Sample, Citizens Complaint,
WRLEC Lab #830319317E, Russel Zesiger
Residence, Rt. 1, Box 15 (Basement),
Receiving Stream: Ohio River, Ohio
Basin, Proctor, Wetzel County, West Virginia

Grab Sample

Date	March 19, 1982
Time	1045
Temperature (Water) °C	16
pH (Field)	7.65
pH (Lab)	8.2
Acidity, mg/l	0
Alkalinity, mg/l	214
Hexavalent Chromium, µg/l	0
Ammonia-Nitrogen, mg/l	.28
Total Magnesium, mg/l	2.3
Total Sulfide, mg/l	0.00
Total Sodium, mg/l	92
Total Arsenic, µg/l	<5
Total Barium, µg/l	<100
Total Cadmium, µg/l	<10
Total Chromium, µg/l	<20
Total Iron, µg/l	55
Total Lead, µg/l	<5
Total Mercury, µg/l	<0.2
Total Nickel, µg/l	<20
Total Selenium, µg/l	<3
Total Silver, µg/l	<10
Total Vanadium, µg/l	<100
Total Zinc, µg/l	130



file

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PPG INDUSTRIES, INC./BOX 191/NEW MARTINSVILLE, WEST VIRGINIA 26155/AREA 304/455-2200

Natrium Plant
Chemical Division - U.S.

January 18, 1982

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Regional Administrator
U.S. Environmental Protection Agency
Region III
Sixth and Walnut Streets
Philadelphia, PA 19106

Dear Sir:

As required by the Resource Conservation and Recovery Act of 1976 [40 CFR 265.94 (a)(2)(i)], PPG Industries, Inc., is reporting the concentrations of the parameters in 265.92 (b)(1) for its first quarterly sampling of the groundwater monitoring wells at the mercury impoundment facility. This active facility is located at the Natrium, West Virginia, plant of PPG Industries, Inc., EPA I.D. No. WVD 004336343.

Attached are the first quarterly results for three downgradient wells (Nos. GM-1, GM-2, and GM-6) and a reference well (No. GM-0) in the uppermost aquifer. These analyses were reported from the laboratory on January 4, 1982.

The hydrogeological study performed prior to placement of the monitoring wells showed that there is no aquifer upgradient of the impoundment. The impoundment is located where the bedrock abruptly rises to a ridge above the impoundment. Downgradient wells are located in the uppermost valley alluvial aquifer, but, because of a heterogeneous mixture of colluvial or detrital material originating from the hillside, the water yield of these wells is poor.

Since it was not possible to take an upgradient sample, a reference well was chosen in the vicinity of the impoundment, but not directly downgradient, to provide a representative background groundwater quality in the uppermost aquifer of interest.

Section 265.94 (a)(2)(i) also requires the operator to identify separately for each monitoring well any parameters whose concentration has been found to exceed the interim primary drinking water standards. These are as follows:

Reference Well No. GM-0 - No parameter exceeded the standards.

	<u>Parameter</u>	<u>Standard</u>	<u>Concentration Found</u>
Well No. GM-1	Barium	1.0 mg/l	1.2 mg/l
	Cadmium	0.01 mg/l	0.083 mg/l
	Radium	5 pCi/l	9.0 ± 2 pCi/l
	Gross Alpha	15 pCi/l	16 ± 9 pCi/l
	Gross Beta	4 milli Rem/yr	43 ± 9 pCi/l
	Coliform Bacteria	1/100 ml	1500/100 ml

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EPA, REGION III
OFFICE OF REGIONAL ADMINISTRATOR

	<u>Parameter</u>	<u>Standard</u>	<u>Concentration Found</u>
Well No. GM-2	Cadmium	0.01 mg/l	0.043 mg/l
	Gross Beta	4 milli Rem/yr	19 ± 6 pCi/l
	Coliform Bacteria	1/100 ml	500/100 ml
Well No. GM-6	Cadmium	0.01 mg/l	0.041 mg/l
	Radium	5 pCi/l	5.7 ± 1 pCi/l
	Gross Alpha	15 pCi/l	12 ± 9 pCi/l
	Gross Beta	4 milli Rem/yr	13 ± 5 pCi/l
	Coliform Bacteria	1/100 ml	54,000/100 ml

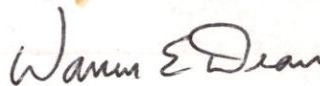
These comments are pertinent to these first quarterly results.

- 1) No parameter was exceeded which is attributable to the impoundment.
- 2) Water yield is poor in these wells so that after pumping out the standing water in the wells, the incoming water was slow and generally very turbid. Turbidity reportedly affects radioactivity measurements. We are investigating this aspect.
- 3) We expect that the initial drilling activity contributed to the coliform bacteria, or perhaps the sampling procedure may have to be improved. There is no farm or septic system anywhere close.
- 4) A study is being made to see if any of the sampling or water level measuring equipment would include a cadmium compound. We would not expect to find cadmium as a result of any impoundment problem.
- 5) We expect that the ongoing quarterly monitoring will average out some of these random fluctuations.

If further information is needed, please contact me at this location.

Sincerely yours,

PPG INDUSTRIES, INC.
Natrium Plant



Warren E. Dean
Technical Manager

WED-CED:egm

Enclosure

MERCURY IMPOUNDMENT
FIRST QUARTERLY MONITORING RESULTS
JANUARY 4, 1982
(Concentration in mg/l except as noted)

<u>Parameters</u>	<u>EPA Maximum* Level Standard</u>	<u>M O N I T O R I N G W E L L S</u>			
		<u>GM-0</u>	<u>GM-1</u>	<u>GM-2</u>	<u>GM-6</u>
Arsenic	0.05	<.005	0.043	0.014	0.009
Barium	1.0	0.070	1.2	0.58	0.27
Cadmium	0.01	<.010	0.083	0.043	0.041
Chromium	0.05	<.010	0.022	0.012	0.022
Fluoride	1.4-2.4	0.8	1.4	0.7	1.2
Lead	0.05	<.010	0.031	0.018	0.016
Mercury	0.002	<.0002	0.0002	0.0002	0.0002
Nitrate (as N)	10	7.5	0.25	0.14	1.68
Selenium	0.01	<.005	<.005	<.005	<.005
Silver	0.05	<.010	<.010	<.010	<.01
Endrin	0.0002	<.0002	<.0002	<.0002	<.0002
Lindane	0.004	<.0001	<.0001	<.001	<.0001
Methoxychlor	0.1	<.003	<.003	<.003	<.003
Toxaphene	0.005	<.003	<.003	<.003	<.003
2,4-D	0.1	<.010	<.010	<.010	<.010
2,4,5-TP Silvex	0.01	<.010	<.010	<.010	<.010
Radium 226, 228 pCi/l	5 pCi/l	<0.6, <1	5.9 ±1.1, 3.1 ±1.4	<.6, <1	2.6 ±.8, 3.1 ±.2
Gross Alpha pCi/l	15 pCi/l	<2	16 ±9	<2	12 ±9
Gross Beta pCi/l	4 milli Rem/yr	<3	43 ±9	19 ±6	13 ±5
Coliform Bacteria	1/100 ml	<1	1500	500	54,000

*Section 265.92 (b)(1), Appendix III - EPA Interim Primary Drinking Water Standards, FR Vol. 45, No. 98, 5/19/80 33257